Colonic Procidentia

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• Distinguishing clinically between procidentia of the colon and prolapse of only the mucosa may be difficult in some cases. Observation of certain differential features will aid in diagnosis. Although in some circumstances it may seem advisable in surgical repair of procidentia to use a procedure that does not necessitate laparotomy, such operations are dangerous in that they do not permit direct inspection of the contents, perhaps vital, of the herniated sac to be excised or occluded.

PROCIDENTIA OF THE COLON through the anus, while not a frequent phenomenon, may occasionally tax the ingenuity of the most experienced surgeon.

The term *prolapse* is sometimes used to designate either of two pathologic conditions of the colon—one in which there is herniation of mucous membrane alone, and the other in which the complete wall of the colon descends. In the interest of distinction, however, the term *procidentia* would seem a better one for the latter condition. Figure 1 illustrates the pertinent differences. The dotted line represents the mucosa, which is involved in both conditions. Procidentia includes the submucosa, muscularis and serosa as designated by the solid lines in the illustration.

With eversion of the intestine, the effect is intussusception. The serosa of the intussusceptum slides easily over the serous surface of the intussuscipiens, with which it is in contact.

Ordinarily, the often-emphasized perianal sulcus (Figure 1, lower right) distinguishes procidentia from mucosal prolapse. If only the lowermost segment of the rectum is herniated, however, or if the herniation is about an artificial anus made in colostomy, there may be no sulcus, and diagnosis then depends upon observation of other distinguishing features:

1. In procidentia, the protruding segment, made up as it is of a fold of the entire wall of the colon, is thicker and firmer than is herniated mucous membrane alone.

2. Usually in procidentia the extent of protrusion is greater than in prolapse; most often the length of the exposed fold is greater than the diameter of the base.

3. In procidentia the rugae on the protrusion are oval, whereas in prolapse they are longitudinal or radial.

4. As the anterior wall of the colon slides down farther than the posterior wall, the herniated segment of the colon in procidentia tends to curl slightly to the rear (Figure 2).

5. Owing to the inclusion of small bowel in the hernia, peristaltic sounds or tympanic resonance on percussion may be noted in the herniated sac.

As both the Mikulicz operation and the Mont Reid procedure have been recommended for repair of sigmoid procidentia, the following two cases in which the patients died are reported to call attention to the possible dangers in these operations.

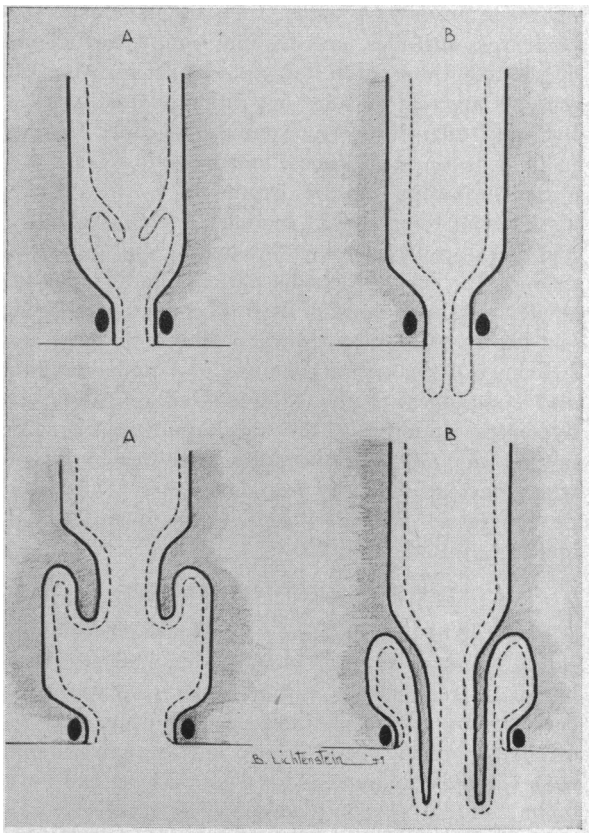

Figure 1.—*Above, A,* incipient prolapse of the mucosa; *B,* prolapse with herniation. *Below,* corresponding stages of procidentia.

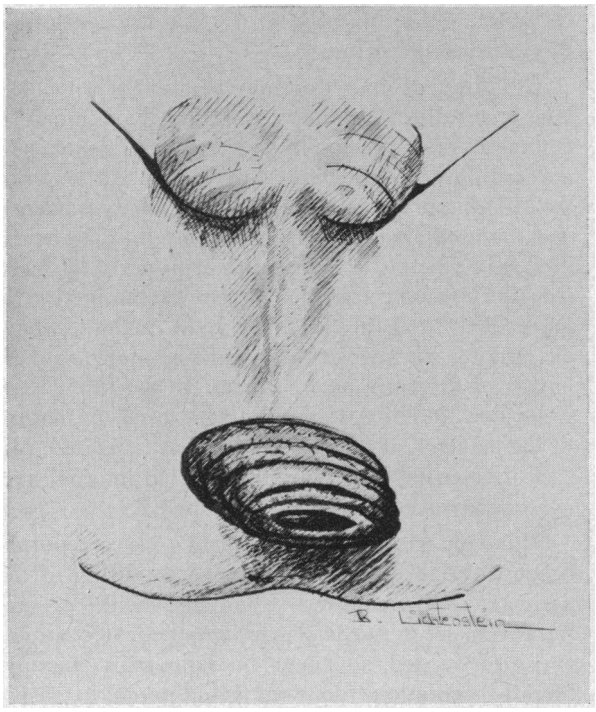

Figure 2.—Posterior curving of herniated segment in procidentia.

CASE REPORTS

CASE 1: A man 67 years of age was admitted to hospital with procidentia at the artificial anus formed in a palliative loop colostomy that had been done earlier because of rectal cancer with hepatic metastases. Prostatic hypertrophy subsequently caused retention of urine, and straining at micturition caused protrusion of the bowel at the abdominal opening.

Upon physical examination, protrusion of 18 cm. of the distal limb of the bowel was noted. The proximal stoma was normal in all respects. The intussusception was reduced but it promptly recurred. The circumstances appeared ideal for the Mikulicz operation. The redundant portion of the bowel was transected approximately 4 cm. distal to the skin. In effect, primary anastomosis was performed, and the suture line was replaced in the abdomen. Subsequently bleeding from the distal limb of the bowel was noted. The patient died a fortnight later with clinical icterus and fulminating peritonitis. Upon autopsy, multiple perforations of a gangrenous segment of distal sigmoid colon, abscess formation, and pyelophlebitis were noted. In the operative procedure a major branch of the left colic artery and the marginal artery to the sigmoid colon had been inadvertently sectioned. (See Figure 3.)

CASE 2: An 80-year-old man was admitted to hospital because of severe rectal hemorrhage of 24 hours' duration. Severe catharsis at home after several days of obstipation resulted in hemorrhage and rectal protrusion.

Upon examination it was noted that there was complete rectal prolapse with strangulation of the intussuscepted seg-

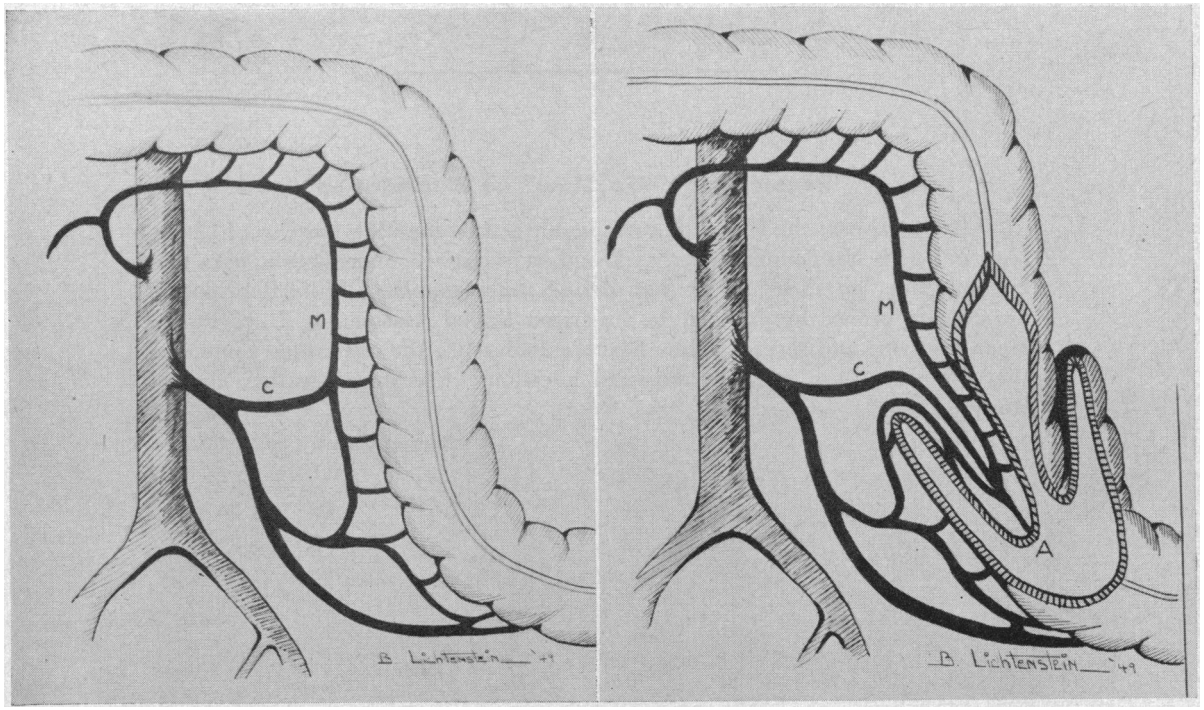

Figure 3.—That the Mikulicz operation entails the hazard of inadvertent sacrifice of the supply of blood to uninvolved colon is illustrated. *Left*—A diagrammatic illustration of uncomplicated sigmoid colostomy. *Right*—A diagram of an early stage of procidentia, the beginning of the intussusceptive process. The marginal artery, *M*, and even the left colic vessel, *C*, may become the contents of the hernial sac, particularly as procidentia progresses. With progression of the intussusception, the apex, *A*, protrudes beyond the abdominal wall. Mass ligatures or blind excision proximal to this point may then interfere with vital supply of blood to the intestine beyond the operative site.

ment. At the apex of the segment was an ulcerating, bleeding lesion, apparently carcinoma. It was assumed that the peritoneal cavity continued down into the prolapsed segment. There was no evidence that the small bowel was involved. The patient was in a state of incipient shock.

Subsequently, the patient went into profound shock. No evidence of obstruction of the small bowel was observed in x-ray films. Considering the age and the critical condition of the patient, the perforating malignant lesion and strangulation of the bowel, celiotomy was deemed inadvisable and the Mont Reid procedure was employed. Two strangulating ligatures were applied to the neck of the herniated segment, around a rectal tube. This controlled the hemorrhage from the infarcted segment of bowel. However, peritonitis developed despite good drainage from the rectal tube. The patient died on the fourth postoperative day.

Upon postmortem examination a pinched-off loop of sigmoid colon was noted in the rectovesical pouch. A segment of the wall was gangrenous, but the lumen was not completely obstructed. Fulminant peritonitis was present.

DISCUSSION

Operations of five main types have been suggested for repair of procidentia of the colon and rectum: Restoration of the pelvic floor, as in the Mayo operation; the Martin procedure for suspension of the bowel; obliteration of the pelvic cul-de-sac, as described by Moschowits; constriction of the anus and rectum; and the Mikulicz operation—transection of the intussuscepted bowel.

The Mikulicz operation may be fraught with danger. It and the Mont Reid procedure have much in common. Anatomically, they produce the same result and both are done without laparotomy. Although in the Mikulicz procedure the peritoneal cavity is opened and the area about the operative site may be examined, nevertheless it is impossible properly to delineate the vascular tree. Peritoneal contamination is more likely than in the Mont Reid method, where an eroding suture causes an inflammatory agglutination of the peritoneal surfaces. In the Mont Reid procedure, it is impossible to determine the nature of the contents of the hernial sac that is ligated. (In Case 2 reported herein an unsuspected internal hernia was involved and the patient died.)

Although with regard to the two cases reported herein it might be argued that the condition of the patients contraindicated celiotomy, with present improvement in surgical and anesthetic techniques and pronounced advances in supportive therapy, "blind" operations done to avoid more extensive procedures can hardly be condoned. There is no substitute for direct inspection.

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Recommends "Go Slow" on Fluoridation

After two years the House Select Committee Investigating the Use of Chemicals in Foods has completed its work and, as a last recommendation, asks that communities *"go slow" about fluoridating water supplies.* While fluoridation has been approved by the A.M.A., American Dental Association, U. S. Public Health Service and several public health associations, the committee contended that there are "too many unanswered questions" and urged further clinical study.

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